# AUTOMATIC IDENTIFIED OUTWARD DIALING, TYPE A2
# ALARM TESTS AND OPERATION TESTS USING STATION IDENTIFICATION
# TEST CIRCUIT SD-1C235-01

## 1. GENERAL

**1.01** This section describes a method of making operational tests of automatic identified outward dialing, type A2 (AIOD-A2) equipment using station identification test (SIT) circuit SD-1C235-01. Operational tests of the alarms are covered and do not require the use of the SIT circuit.

**1.02** This section is reissued to correct procedures in Test K. This reissue does not affect the Equipment Test List.

**1.03** The tests covered are:

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this test checks the ability of the SIS control circuit to:

(a) Perform a trap function using the data link number when a trunk number check failure occurs

(b) Perform a trap function using the trunk number when a data link number check failure occurs

(c) Allow information to be entered into memory as received if only a station number check failure occurs

(d) Clear the entire memory if both trunk and data link number check failures occur. . . . . 12

*I. **Initialization Test:*** This test checks that the system is in operative condition. The test is performed when the system is to be placed in service for the first time or when the system is inoperative due to an unknown trouble. . . . . 13

*J. **Fuse Alarm:*** This test checks the ability of the fuse alarm to function when a fuse has operated and a central office alarm is to be operated. . . . 14

*K. **Converter Alarm and Alarm Fail-Safe Circuits:*** This test checks the ability of the circuit to initiate a major alarm and indicate a power failure when the power system supply fails. . 15

*L. **Major and Minor Alarm Interface Circuit:*** This test checks the ability of the major and minor alarm interface circuits to initiate major or minor alarms when major or minor trouble conditions are detected by the station identification test circuit. This test also checks the remote display of data link numbers at the maintenance center. . . . . 16

**1.04** When the tests are performed on an AIOD-A2 system which is in service, care should be exercised to guard against the loss of a number change which may be in the memory. Upon completion of any test which clears the memory, required number change entries should be initiated by means of the SLT circuit as described in Test C.

**1.05** Consult trouble locating manual TLM-1C235 if any trouble lamps are displayed as a result of these tests. The TLM outlines procedures for the analysis and repair of circuit failures in the AIOD-A2 equipment.

**1.06** When the system is operative and the LCO switch is operated, the SYC lamp should be lighted at all times. It may flicker briefly as calls enter the system. If the SYC lamp is extinguished, consult TLM-1C235.

**1.07** The tests should be performed during a period of light traffic. Test K requires shutdown of the system and will cause conditions which distort the data memory. ***It is important that at the conclusion of this test, the memory be cleared and any trunk number changes effective at this time be placed back into memory.***

**1.08** Before and after performing alarm tests, notify personnel responsible for responding to these alarms. If a regular alarm should originate during these tests, the tests should be discontinued immediately and the responsible personnel notified.

**1.09** Local instructions should be followed for recording and reporting any register operation caused by performing these tests.

**1.10** Maintenance centers referred to in Part 4 are as follows:

(1) Crossbar No. 1—originating sender test frame

(2) Crossbar No. 5—master test frame

(3) Panel or SXS with ANI-B—outpulser identifier test frame

(4) SXS with ANI-C—miscellaneous circuit, outpulser and test frame.

**1.11** ***Lettered Steps:*** A letter, a, b, c, etc, added to a step number in Part 4 of this section, indicates an action which may or may not be required depending on local conditions. The

condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

## 2. APPARATUS

**All Tests**

**2.01** SIT circuit SD-1C235-01.

**Tests D, E, F, G, H, and I**

**2.02** Two 3P7B patching cords.

**Test G**

**2.03** One 258-type dummy plug.

**Test J**

**2.04** One W1AF cord, 8 feet 6 inches long, equipped with two 360A tools, one KS-6278 connecting clip, and one 411B tool.

**Test L**

**2.05** One 1W13A cord, 3 feet long, equipped with two 360A tools and two 624B tools.

## 3. PREPARATION

**3.01** Before starting any test, operate LCO switch to ON.

## 4. METHOD

| STEP | ACTION | VERIFICATION |
|---|---|---|
| **A. Simulated PBX Message** | | |
| 1 | Set switch DLN to position representing a nonworking data link number.<br><br>***Note:*** Use position 0 if all data links are in use. | |
| 2 | Set switch SW0 to position 1. | |
| 3 | Set switches SW1 through SW20 to position 1 on a two-out-of-five basis (Table A) to represent the 4-digit trunk number.<br><br>***Caution: The trunk number used must be of a group of numbers set aside for test purposes. Consult office records to determine the test trunk number. Wrong billing can result from the use of a trunk number assigned to a working PBX data link.*** | |
| 4 | Set switches SW21 through SW40 to position 1 on a two-out-of-five basis to represent the 4-digit station number. | |
| 5 | Momentarily operate LD key. | PLB lamp lighted.<br>Trunk number TH_, H_, T_, U_, STA NO TH_, H_, T_, U_ lamps corresponding to set switches SW1 through SW40 lighted. |

| STEP | ACTION | VERIFICATION |
|---|---|---|

**TABLE A**

| DIGIT | 0 | 1 | 2 | 4 | 7 |
|---|---|---|---|---|---|
| 0 | | | | X | X |
| 1 | X | X | | | |
| 2 | X | | X | | |
| 3 | | X | X | | |
| 4 | X | | | X | |
| 5 | | X | | X | |
| 6 | | | X | X | |
| 7 | X | | | | X |
| 8 | | X | | | X |
| 9 | | | X | | X |

| | | |
|---|---|---|
| 6a | If error is indicated in verification of preceding step—<br>Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 7a | Correct setting of SW1 through SW40 switches as required. | |
| 8a | Repeat Step 5. | |
| 9 | Set switch ATTN according to desired attenuation in output of data transmitter.<br><br>***Note:*** ON position provides −16.0 dB loss. OFF position provides $-4.0 \pm 1.5$ dB loss. | |
| 10 | Operate PBX switch. | |
| 11 | Operate TST switch. | If a match has been made of a trunk number circulating in memory and a complete 45-bit word is present—<br>Trunk data link and station number previously in memory will be displayed.<br>PBX, RC, CRF, CRFA, TN, DN, SN, LP, WR, WER, SYC lamps lighted.<br>Trunk number only will be displayed if data link number and station number have been removed as a result of an NIR request or a trap function.<br>DN and SN lamps extinguished.<br>If no match has been made of a trunk number |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| | | circulating in memory—<br>Trunk number, data link number, and station number lamps extinguished.<br>TN, DN, SN lamps extinguished. |
| 12 | Restore PBX and TST switches to normal. | |
| 13 | Momentarily operate CLR key. | All lamps extinguished except SYC. |
| 14 | Restore all switches to normal. | |

**B. Simulated Central Office Request**

| | | |
|---|---|---|
| 1 | Perform Test A.<br><br>***Note:*** Set DLN switch to position 0 in Step 1. | |
| 2 | Set SW1 through SW20 switches on a 2/5 basis to represent the 4-digit trunk number used in Step 1.<br><br>***Note:*** DLN switch and SW21 through SW40 switches should be set to OFF position. | |
| 3 | Momentarily operate LD key. | Trunk number TH_, H_, T_, U_ lamps corresponding to SW1 through SW20 set switches lighted. |
| 4a | If error is indicated in verification of preceding step—<br>Momentarily operate CLR key. | All lamps extinguished. |
| 5a | Correct settings of SW1 through SW20 switches as required. | |
| 6a | Repeat Step 3. | |
| 7 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 8 | Operate NIR switch. | |
| 9 | Operate TST switch. | NIR, CRF, CRFA, LP, WR, WER, 2/5K, SYC lamps lighted.<br>Office Index T_ and U_ lamps and station number associated with trunk number used in Step 1 lighted. |
| 10 | Restore all switches to normal. | |
| 11 | Momentarily operate CLR key. | All lamps except SYC extinguished. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| **C.** | **Simulated Central Office Request With Trunk Number Change** | |
| 1 | Set SW0 switch to position 1. | |
| 2 | Set SW1 through SW20 switches to position 1 on a 2/5 basis to represent the new trunk number. | |
| 3 | Set SW21 through SW40 switches to position 1 on a 2/5 basis to represent the old trunk number. | |
| 4 | Momentarily operate LD key. | PLB lamp lighted.<br>Trunk number TH_, H_, T_, U_, station number TH_, H_, T_, U_ lamps corresponding to set switches SW1 through SW40 lighted. |
| 5a | If error is indicated in verification of preceding step—<br>Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 6a | Correct setting of SW1 through SW40 switches as required. | |
| 7a | Repeat Step 4. | |
| 8 | Operate NCH switch. | |
| 9 | Operate TST switch. | If new trunk number is being entered in memory for first time—<br>PBX, RC, CRF, CRFA, LP, WR, WER, SYC lamps lighted.<br>Trunk number, station number, data link number lamps all remain extinguished. |
| 10 | Restore TST and NCH switches. | |
| 11 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 12 | Repeat Steps 4, 8, and 9. | PBX, RC, CRF, CRFA, TN, SN, LP, WR, WER, SYC lamps lighted.<br>DN lamp extinguished.<br>Trunk number lamps display new trunk number.<br>All five DLN lamps lighted.<br>Station number lamps display old trunk number. |
| 13 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 14 | Restore all switches to normal. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 15 | Perform Test A using old trunk number and any station number. | |
| 16 | Perform Test B, Step 2, using the new trunk number which was placed in memory in Step 2 of this test. | |
| 17 | Perform Test B, Steps 3 through 9. | NIR, CRF, CRFA, LP, WR, WER, 2/5K, SYC, NC, NS lamps lighted.<br>Station number lamps display station number placed in memory in Step 15. |
| 18 | Restore all switches to normal. | |
| 19 | Momentarily operate CLR key. | All lamps except SYC extinguished. |

**D. Memory Check Test**

***Note:*** This test should be made with the delay line at its operating temperature (110°-125°F). The system will be out of service during this test.

| | | |
|---|---|---|
| 1 | Operate SYD switch. | SYD lamp lighted. |
| 2 | At data trunk jack and lamp panel—<br>Patch TST jack to DRT jack. | |
| 3 | At display and test control panel—<br>Operate MCK and MCK1 switches.<br><br>***Note:*** Disregard lighted lamps except trouble lamps. | |
| 4a | If any trouble lamps are lighted—<br>Momentarily operate CLR key. | All lamps except SYC and MJA extinguished.<br>MLF lamp may remain lighted. |
| 5a | At miscellaneous jack, key, and lamp panel—<br>Momentarily operate RS key. | MJA lamp extinguished. |
| 6 | Perform Test A, Steps 1 through 10. Any trunk, data link, and station number may be used. | |
| 7 | Operate switch TST. | MLF, PBX, RC, CRF, CRFA, LP lamps lighted. |
| 8 | Restore TST and PBX switches to normal. | |
| 9 | Momentarily operate CLR key. | RC and MLF lamps extinguished.<br>PBX, CRF, CRFA, LP lamps remain lighted. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| | | ***Note:*** If MLF lamp is not extinguished, the delay line memory is out of synchronization with the 1-MHz clock and requires adjustment. Adjustment procedures are outlined in CD-1C235-01, Section II, under Memory Check Test. If MLF lamp is extinguished, readjustment may be made to determine that it is properly set. |
| 10 | Restore switches MCK and MCK1 to normal. (Disregard lighted lamps.) | |
| 11 | Momentarily simultaneously operate RES and MR keys. (Disregard lighted lamps.) | |
| 12 | Momentarily operate CLR key. | All lamps except SYC and MJA extinguished. |
| 13 | At miscellaneous jack, key, and lamp panel— Momentarily operate RS key. | MJA lamp extinguished. |
| 14 | Perform a few simulated PBX message tests and simulated central office request tests (Test A and Test B). | Data entered in memory and read out of memory correctly. |
| 15 | Repeat Steps 11 through 13. | |
| 16 | Remove patch cord from TST and DRT jacks. | |
| 17 | Restore SYD key to normal. | SYD lamp extinguished. |
| **E. Test of Data Link Connector** | | |
| 1a | If DR_ jack is associated with a working data trunk— Set DLN switch to position corresponding to DR_ jack number. | |
| 2 | Connect a patch cord to DR_ jack, then to TST jack.<br><br>***Note:*** If DR_ jack is associated with a working data trunk, PBX-ANI will be out of service until Step 3a is completed. If DR_ jack is unassigned, failure to follow the patching sequence can result in a false service request which may clear the memory. | |
| 3a | If DR_ jack is associated with a working data trunk— Connect a patching cord to DR0 jack, then to DT_ jack corresponding to DR_ jack. | Data trunk associated with DR_ jack will now be served by data trunk access "0". Lamp DL0 lighted momentarily when a PBX request is being served. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 4b | If any trouble or call progress lamps are lighted—<br>Momentarily operate CLR key. | All lamps except SYC and MJA extinguished. |
| 5b | At miscellaneous jack, key, and lamp panel—<br>Momentarily operate RS key. | MJA lamp extinguished. |
| 6 | Perform Test A, Steps 2 through 13. | |
| 7a | If DR_ jack is associated with a working data trunk—<br>Remove patching cord from DT_ jack, then from DR0 jack.<br><br>***Note:*** PBX-ANI will be out of service until Step 8 is performed. | |
| 8 | Remove patching cord from TST jack, then from DR_ jack. | |
| 9 | Repeat Steps 4b and 5b if required. | |
| 10 | Restore all switches to normal. | |

**F. Test of Station Identification Store and Control Circuit**

***Caution: This test should be performed at the initialization of the system or during light traffic when the system can be taken out of service.***

| | | |
|---|---|---|
| 1 | Operate SYD switch. | SYD lamp lighted. |
| 2 | Patch TST jack to DRT jack. | |
| 3 | Momentarily simultaneously operate MR and RES keys.<br>Disregard lighted lamps. | |
| 4 | Momentarily operate CLR key. | All lamps except SYC and MJA extinguished. |
| 5 | At miscellaneous jack, key, and lamp panel—<br>Momentarily operate RS key. | MJA lamp extinguished. |
| 6 | Perform Test A, Steps 1 through 10, using first test number in Table B. | |
| 7 | Operate TST switch. | PBX, RC, CRF, CRFA, LP, WR, WER, SYC lamps lighted.<br>No lamp displayed in trunk number, data link number, or station number. |

| STEP | ACTION | VERIFICATION |
|---|---|---|

**TABLE B**

| TRUNK NUMBER | DATA LINK NUMBER | STATION NUMBER |
|---|---|---|
| 1111 | 6 | 6666 |
| 2222 | 7 | 7777 |
| 3333 | 8 | 8888 |
| 4444 | 9 | 9999 |
| 6666 | 1 | 1111 |
| 7777 | 2 | 2222 |
| 8888 | 3 | 3333 |
| 9999 | 4 | 4444 |
| 1121 | 5 | 1121 |
| 1211 | 0 | 1211 |

| | | |
|---|---|---|
| 8 | Restore PBX and TST switches. | |
| 9 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 10 | Momentarily operate LD key. | PLB lamp lighted.<br>Trunk number and station number lamps lighted correspond to operated SW1 through SW40 switches. |
| 11 | Operate PBX and TST switches. | PBX, RC, CRF, CRFA, TN, DN, SN, LP, WR, WER, SYC lamps lighted.<br>Trunk number, data link number (DLN), and station number lamps displayed as in Table B. |
| 12 | Restore PBX and TST switches. | |
| 13 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 14 | Repeat Steps 6 through 13 using remaining test numbers in Table B. | |
| 15 | Repeat Steps 3 through 5. | |
| 16 | Remove patch cord from TST and DRT jacks. | |
| 17 | Restore SYD switch to normal. | SYD lamp extinguished. |

**G. Data Link Number to Office Index Translation Test**

***Note:*** If system is not in service, cross-connections between the DN_ and OI_

| STEP | ACTION | VERIFICATION |
|---|---|---|
| | terminals (see SD-1C234-01) should be DN 0-9 to OI 00-09 respectively. If system is in service and test is made to verify existing cross-connections, set DLN switch to desired position and perform Steps 4 through 7 using an unassigned trunk number set aside for test purposes. | |
| 1 | Insert a dummy plug in DRT jack. | |
| 2 | Patch TST jack to DR0 jack. | |
| 3 | Set DLN switch to position 0. | |
| 4 | Perform Test A, Steps 2 through 13, using any trunk number and any station number. | |
| 5 | Perform Test B, Steps 8 and 9, using same trunk number as in Step 4. | Office Index T_ and U_ lamps lighted correspond to number of DR_ jack used (DR0-9 to OI 00-09). |
| 6 | Restore NIR and TST switches. | |
| 7 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 8 | Successively patch TST jack to jacks DR1-9 and repeat Steps 4 through 7 after each change. | |
| 9 | Remove patch cord from TST and DR_ jacks. | |
| 10 | Remove dummy plug from DRT jack. | |
| 11 | Change cross-connections between DN_ and OI_ terminals to connect DN 0-9 to OI 10-19 respectively. | |
| 12 | Repeat Steps 3 through 7. | In Step 5, Office Index lamps lighted correspond to DLN switch position (DLN 0-9 to OI 10-19 or 20-29). |
| 13 | Successively change DLN switch to positions 1-9 and repeat Steps 4 through 7 after each change. | Same as Step 12 verification. |
| 14 | Change cross-connections between DN_ and OI_ terminals to connect DN 0-9 to OI 20-29 respectively. | |
| 15 | Repeat Steps 12 and 13. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| **H. Test of SIS Control Circuit Trap Functions** | | |
| 1 | Operate SYD switch. | SYD lamp lighted. |
| 2 | Patch TST jack to DRT jack. | |
| 3 | Perform a series of simulated PBX messages (Test A) using all test numbers shown in Table C. | |
| 4 | Perform Test A using first test number shown in Table C except that only one of the trunk number switches in the units position (SW16-SW20) is operated. | DKF, PBX, RC, CRF, CRFA, DN, SN, LP, WER, SYC lamps lighted.<br>DN lamp extinguished. |
| 5 | Perform Test B, Steps 2 through 11, using first ten trunk numbers shown in Table C. | Valid trunk number and data link number displayed.<br>No lamps displayed in station number positions.<br>DKMA, NIR, CRF, CRFA, TN, DN, LP, WR, WER, TRL, SYC lamps lighted.<br>SN, 2/5K lamps extinguished. |
| 6 | Perform Test A using test number 11 in Table C, except that DLN switch is set to OFF. | Trunk and station number displayed.<br>No lamps displayed in data link number.<br>DKF, PBX, RC, CRF, CRFA, TN, SN, LP, WER, SYC lamps lighted.<br>ON lamp extinguished. |
| 7 | Perform Test B, Steps 2 through 11, using trunk number used in Step 6. | No lamps displayed in data link and station number positions.<br>DKMA, NIR, CRF, CRFA, TN, LP, WR, WER, TRL, SYC lamps lighted.<br>DN, SN, 2/5K lamps extinguished. |
| 8 | Perform Test A using test number 12 in Table C except that only one of the station number switches is operated in the units position (SW36-SW40). | DKF, PBX, RC, CRF, CRFA, TN, DN, LP, WR, WER, SYC lamps lighted.<br>SN lamp extinguished.<br>Valid trunk and data link numbers displayed.<br>Only one lamp in the station number units position displayed. |
| 9 | Perform Test B, Steps 2 through 11, using trunk number used in Step 8. | DKMA, NIR, CRF, CRFA, TN, DN, LP, WR, WER, TRL, SYC lamps lighted.<br>SN, 2/5K lamps extinguished.<br>Valid trunk and data link numbers displayed.<br>Only one lamp in station number units position displayed. |
| 10 | Perform Test A using test number 12 in Table C except that only one of the trunk number switches is operated in the thousands | DKF, CLM, PBX, RC, CRF, CRFA, SN, SYC lamps lighted.<br>MJA lamp lighted. |

| STEP | ACTION | VERIFICATION |
|---|---|---|

**TABLE C**

| TEST | TRUNK NUMBER | DATA LINK NUMBER | STATION NUMBER |
|---|---|---|---|
| 1 | 1111 | 7 | 1111 |
| 2 | 2111 | 7 | 2111 |
| 3 | 3111 | 7 | 3111 |
| 4 | 4111 | 7 | 4111 |
| 5 | 5111 | 7 | 5111 |
| 6 | 6111 | 7 | 6111 |
| 7 | 7111 | 7 | 7111 |
| 8 | 8111 | 7 | 8111 |
| 9 | 9111 | 7 | 9111 |
| 10 | 0111 | 7 | 0111 |
| 11 | 1222 | 9 | 1222 |
| 12 | 2333 | 2 | 2333 |

position (SW1-SW5) and DLN switch is set to OFF.

***Caution: Memory is now cleared. Any changes in memory before starting test must be placed in memory after this step.***

| | | |
|---|---|---|
| 11 | Perform Test B, Steps 2 through 11, using trunk number listed for test number 12 in Table C. | DKMA, MAF, NIR, CRF, CRFA, LP, TRL, SYC lamps lighted. |
| 12 | Restore all switches except SYD to normal. | |
| 13 | Momentarily operate CLR key. | All lamps except SYC extinguished. |
| 14 | At miscellaneous jack, key, and lamp panel—Momentarily operate RS key. | MJA lamp extinguished. |
| 15 | Remove patch cord from TST and DRT jacks. | |
| 16 | Restore SYD switch to normal. | SYD lamp extinguished. |

**I. Initialization Test**

| | | |
|---|---|---|
| 1 | Operate SYD key. | SYD lamp lighted. |

***Note:*** All other keys and switches except LCO should be in normal position.

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 2 | Operate switches as required to place power on system. See CD-81928-01. | |
| 3 | Patch TST jack to DRT jack. | |
| 4 | Simultaneously operate MR and RES keys. Disregard lighted lamps. | |
| 5 | Momentarily operate CLR key. | |
| 6 | At miscellaneous jack, key, and lamp panel— Momentarily operate RS key. | All lamps except TL and SYC extinguished.<br><br>***Note:*** TL lamp lighted indicates delay line oven temperature is too low. If MLF lamp remains lighted, disregard it. |
| 7a | If TL lamp is lighted— Repeat Steps 5 and 6 at 5-minute intervals until lamp is extinguished. | |
| 8 | In 10 minutes, perform Test D, Steps 3 through 13. | |
| 9 | Perform Tests F, G, H, E, A, B, and C as required.<br><br>***Note:*** Tests A, B, and C may be performed with SYD key operated and TST jack patched to DRT jack. | |
| 10 | Before system is placed in service— Momentarily simultaneously operate MR and RES keys. Disregard lighted lamps. | |
| 11 | Momentarily operate CLR key. | All lamps except SYC and MJA extinguished. |
| 12 | At miscellaneous jack, key, and lamp panel— Momentarily operate RS key. | MJA lamp extinguished. |
| 13 | Restore SYD key to normal. | SYD lamp extinguished. |
| 14 | Use Test C to restore any number change information previously in memory. | |

**J. Fuse Alarm**

| | | |
|---|---|---|
| 1 | At −48 volt fuse panel— Using W1AF cord, connect battery to fuse alarm bus bar associated with −48V SIG, −48V TALK, E, F, G, and H fuses. | FA lamp lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 2 | Remove W1AF cord. | FA lamp extinguished.<br>Central office major alarm retired.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| **K. Converter Alarm and Alarm Fail-Safe Circuits** | | |
| 1 | At display and test control panel—<br>Operate SYD key. | SYD lamp lighted. |
| 2 | At −48V fuse panel—<br>Remove 10-ampere FE fuse. | At miscellaneous panel—<br>PWF lamp lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |
| 3 | At miscellaneous panel—<br>Operate CRRS key. | CRRS lamp lighted.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| 4 | At −48V fuse panel—<br>Replace FE fuse. | At miscellaneous panel—<br>PWF lamp extinguished.<br>Central office major alarm retired. |
| 5 | At miscellaneous panel—<br>Restore CRRS key. | CRRS lamp extinguished. |
| 6 | At −48V fuse panel—<br>Remove 2-ampere AF fuse. | Same as Step 2. |
| 7 | Replace AF fuse. | At miscellaneous panel—<br>PWF lamp extinguished.<br>Central office major alarm retired.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| 8 | ▶At converter unit—<br>Operate INPUT switch to OFF position. | 24V FAIL, 12V FAIL, 6V FAIL, and INVR FAIL lamps lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |
| 9 | Momentarily operate ST-RLS KEY. | All trouble lamps extinguished.<br>Central office major alarm retired. |
| 10 | Slide inverter unit out of converter as far as necessary to disconnect it from its rear connector. | |
| 11 | With ST-RLS KEY held operated—<br>Operate INPUT switch to ON position. | |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 12 | Release ST RLS KEY. | At miscellaneous panel—<br>PWF lamp lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |
| 13 | At miscellaneous panel—<br>Operate CRRS key. | CRRS lamp lighted.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| 14 | At converter unit—<br>Operate INPUT switch to OFF position. | 24V FAIL, 12V FAIL, 6V FAIL, and INVR FAIL lamps lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |
| 15 | Momentarily operate ST-RLS KEY. | All trouble lamps extinguished.<br>Central office major alarm retired. |
| 16 | Reconnect inverter unit to its connector. | |
| 17 | With ST-RLS KEY held operated—<br>Operate INPUT switch to ON position. | |
| 18 | Release ST-RLS KEY. | |
| 19 | Repeat Steps 8 through 18, disconnecting and reconnecting 6V, 12V, and 24V rectifier units in sequence. | |
| 20 | Perform initialization test (TEST I) and replace system in service. | |

**L. Major and Minor Alarm Interface Circuit**

| | | |
|---|---|---|
| 1 | At SIT circuit, CP74, location 01A07—<br>Connect pin 29 to pin 2. | At miscellaneous panel—<br>MJA and MAPF lamps lighted.<br>Central office major alarm operated.<br>Central office MJ-AIOD lamp lighted at maintenance center. |
| 2 | Disconnect pin 2 from pin 29. | |
| 3 | Momentarily operate CLR switch and RS key. | MJA and MAPF lamps extinguished.<br>Central office major alarm retired.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| 4 | Repeat Steps 1 and 2. | |
| 5 | Momentarily operate CLR switch at SIT frame and RS-AIOD key at maintenance center. | Same as Step 3. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 6 | At SIT circuit, CP74, location 01A07—<br>Connect pin 29 to pin 17. | Same as Step 1. |
| 7 | Disconnect pin 17 from pin 29. | Same as Step 2. |
| 8 | Momentarily operate CLR switch and RS key. | MJA and MAPF lamps extinguished.<br>Central office major alarm retired.<br>Central office MJ-AIOD lamp extinguished at maintenance center. |
| 9 | At SIT circuit, CP R49C, location 05C10—<br>Connect pin 1 to pin 14. | At miscellaneous panel—<br>MNA lamp lighted.<br>Central office minor alarm operated.<br>Central office MN-AIOD lamp lighted at maintenance center. |
| 10 | At miscellaneous panel—<br>Operate CRRS key. | CRRS lamp lighted.<br>Central office MN-AIOD lamp extinguished at maintenance center. |
| 11 | Momentarily operate ACO key. | ACO lamp lighted.<br>Central office minor alarm silenced. |
| 12 | At SIT circuit, CP R49C, location 05C10—<br>Disconnect pin 14 from pin 1. | MNA lamp extinguished.<br>Central office minor alarm retired. |
| 13 | Restore CRRS key. | CRRS lamp extinguished. |
| 14 | Operate AC switch. | |
| 15 | Set DLN switch to position 0. | |
| 16 | Perform Steps 2 through 13, Test A. | |
| 17 | Set DLN switch to position 1. | |
| 18 | Perform Steps 2 through 10, Test A. | |
| 19 | Operate TST switch. | DLN lamps 4 and 7 lighted at display panel and at maintenance center. |
| 20 | Restore PBX and TST switches to normal. | |
| 21 | Momentarily operate CLR key. | All lamps extinguished except SYC. |
| 22 | Set DLN switch to position 2. | |
| 23 | Perform Steps 2 through 10, Test A. | |
| 24 | Operate TST switch. | DLN lamps 0 and 1 lighted at display panel and at maintenance center. |

| STEP | ACTION | VERIFICATION |
|---|---|---|
| 25 | Repeat Steps 20 and 21. | |
| 26 | Set DLN switch to position 0. | |
| 27 | Perform Steps 2 through 10, Test A. | |
| 28 | Operate TST switch. | DLN lamps 0 and 2 lighted at display panel and at maintenance center. |
| 29 | Repeat Steps 20 and 21. | |
| 30 | Restore all switches to normal. | |